CLAIMS

What is claimed is:

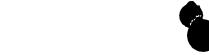1. 1   A method for generating hair comprising:

    2   producing a plurality of hairs representative o f a dry coat of hair; and

    3   modifying at least one area of hair to provide a visual effect, comprising

    4   for each area;

    5   identifying a hair of the plurality of hairs as a center hair.

    6   identifying an area size,

    7   indicating at least one area parameter,

    8   determining hairs of the plurality of hairs that are within the area

    9   as area hairs, the area located according to the center hair and the area

    10   size and

    11   orienting the area hairs according to at least one area parameter.

2. 1   2.   The method as set forth in claim 1, wherein the visual effect is selected

    2   from the group comprising clumping of hairs and breaking of hair.

3. 1   3.   The method as set forth in claim 1, wherein the at least one area

    2   parameter are selected from the group comprising clump-percent, clump-rate,

    3   break-rate, break-percent and break-vector.

4. 1   4.   The method as set forth in claim 3, wherein the at least one clump

    2   parameter comprises clump-percent, said step of orienting comprising

    3   adjusting a tip of each clump hair to be closer to the tip of the clump center hair,

    4   the amount of closeness corresponding to the clump-percent.

5. 1   5.   The method as set forth in claim 3, wherein the at least one clump

    2   parameter comprises clump-rate, the step of adjusting comprising adjusting the

3   clump hair to be attracted to the center hair, the degree of attraction

4   corresponding to the clump-rate.

1   6.   The method as set forth in claim 1, wherein the at least one area

2   parameter is dynamically varied to provide animated effects.

3   7.   The method as set forth in claim 6, wherein the animated effect

4   comprises simulating water hitting hairs and making the hairs increasingly wet.

1   8.   The method as set forth in claim 1, wherein the visual effect is breaking,

2   said center hair comprising a break line hair that lies approximately on a fur

3   track.

5   9.   The method as set forth in claim 8, wherein one-sided breaking is

performed, said step of adjusting comprises reorienting hairs away from a

corresponding break line hair.

1   10.   The method as set forth in claim 8, wherein symmetric breaking is

2   performed, said step of adjusting comprising reorienting hairs with respect to a

3   corresponding break line hair.

1   11.   A method for generating hairs on a surface comprising:

2   defining surface patches on the surface area;

3   placing control hairs on each surface patch;

4   indicating a global density value for the hairs;

5   defining local points which define the area of the surface to be processed;

6   approximating sub-area defined by polygons;

7   averaging a number of hairs per square unit area across sub-areas;

8   determining a total number of hairs per unit area; and

9   placing hairs in the sub-areas according to the total number of hairs per

10   unit area.

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